
वस्त्रादि — हथकरघा निर्मित सूती तर्किश,
हनीकॉम्ब व हकाबैक तौलिये
और तौलियों का कपड़ा — विशिष्टि
(तीसरा पुनरीक्षण)

**Textiles — Handloom Cotton
Turkish, Honeycomb and Huckaback
Towels and Towelling
Cloth — Specification**
(*Third Revision*)

ICS 59.080.30; 97.160

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FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Handloom and Khadi Sectional Committee had been approved by the Textiles Division Council.

This standard was first published in 1956 and subsequently revised in 1981 and 1991. This standard has been again revised to incorporate the following major changes:

- a) Requirement and test method for identification of material has been incorporated;
- b) Amendment has been incorporated;
- c) Tolerance on ends/dm, picks/dm and mass has been modified;
- d) Sampling plan has been modified;
- e) References to Indian Standards have been updated; and
- f) BIS certification marking clause has been updated.

The composition of the Committee responsible for the formulation of this standard is given in Annex D.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — HANDLOOM COTTON TURKISH, HONEYCOMB AND HUCKABACK TOWELS AND TOWELLING CLOTH — SPECIFICATION

(*Third Revision*)

1 SCOPE

1.1 This standard prescribes constructional particulars and other requirements for seven, five and four varieties of handloom cotton turkish, honeycomb and huckaback towels respectively.

1.2 The constructional particulars and other requirements specified in this standard shall also be applicable to towelling cloth.

1.3 This standard does not specify the general appearance, feel, finish, etc.

2 REFERENCES

The standards listed in Annex A contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

3 ATMOSPHERE CONDITIONS FOR TESTING

Test specimens may be conditioned and tested in the prevailing atmosphere for determining the conformity of the towels to this standard. However, in all cases of disputes, specimens shall be conditioned and tested in the standard atmosphere as specified in the Indian Standards referred on test methods.

4 MANUFACTURE

4.1 Yarn

The cotton yarn used in the manufacture of towels shall conform to the requirements specified in IS 171.

4.2 Towels

The towels shall be free from dressing and filling materials and from substances liable to cause subsequent tendering.

4.2.1 In case of turkish towels, the ground to pile ratio shall be 1:3, 1:4 or 1:5 or as agreed to between the buyer and the seller.

4.2.2 Each transverse end of the towel shall be either finished with a fringe 4 to 5 cm in length, or hemmed to a depth of not less than 15 mm, the raw edges having a turn-in of 10 mm before the hem is formed. The cotton sewing thread (*see* IS 1720) of 100 dtex \times 6 (60/6) shall be used in hemming and the number of stitches shall not be less than 4 per centimetre.

5 REQUIREMENTS

5.1 The turkish, honeycomb and huckaback towels shall conform to the requirements specified in Table 1, Table 2 and Table 3 respectively.

5.1.1 However breaking load requirement shall be an optional requirement. It shall be enforced only when conformance of cotton yarn to the requirements specified in IS 171 is not known.

5.2 The towels shall also conform to the requirements specified in Table 4.

5.3 Dimensions

Length and width of the towels when determined in accordance with IS 1954 shall be as agreed to between the buyer and the seller or as declared by the seller subject to the tolerances of ± 2 percent on length and width.

5.4 In order to illustrate or specify the indeterminable characteristics, such as general appearance, feel and shade of the towels, if a sample has been agreed upon and sealed, then the supply shall be in conformity with the sample in such respects.

5.4.1 The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

6 INSPECTION

6.1 The towels when visually inspected should be free from the major flaws listed at Annex B.

Table 1 Constructional Particulars of Handloom Turkish Towels and Towelling Cloth
(Clause 5.1)

Variety No.	Count of Yarn, Universal Count (Cotton Count)		Ends/dm	Picks/dm	Mass, g/m ²	Weave
	<div> <div>Warp (ground and pile)</div> <div>Weft</div> </div>					
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	30 tex × 2 (20 ² /2)	30 tex (20 ^s)	157	173	300	↑ Terry weave ↓
2	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	118	118	317	
3	30 tex × 2 (20 ² /2)	30 tex (20 ^s)	250	200	400	
4	30 tex × 2 (20 ² /2)	50 tex (12 ^s)	220	190	500	
5	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	126	173	500	
6	30 tex × 2 (20 ² /2)	30 tex (20 ^s)	240	168	350	
7	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	216	144	550	
Tolerance, percent	± 5	± 5	± 5	± 5	± 5	—
Method of test	IS 3442	IS 3442	IS 1963	IS 1963	IS 1964 or Annex C	Visual

Table 2 Constructional Particulars and Breaking Load Requirement for Handloom Cotton Honeycomb Towels and Towelling Cloth

(Clause 5.1)

Variety No.	Count of Yarn, Universal Count (Cotton Count)		Ends/dm	Picks/dm	Mass g/m ²	Breaking Load (see 5.1.1)		Weave
	<div> <div>Warp</div> <div>Weft</div> </div>					<div> <div>Warp</div> <div>Weft</div> </div>		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	160	140	185	460	200	↑ 4-end or 5-end or 6-end honey-comb ↓
2	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	160	160	200	460	220	
3	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	176	160 (or 80 double)	220	480	220	
4	30 tex × 2 (20 ² /2)	60 tex (10 ^s)	176	176	240	480	240	
5	37 tex (16 ^s)	60 tex (10 ^s)	210	190	190	280	280	
Tolerance, percent	± 5	± 5	± 5	± 5	± 5	– 5 on average and – 15 on individual reading		—
Method of test	IS 3442	IS 3442	IS 1963	IS 1963	IS 1964 or Annex C	IS 1969 (Part 1)	IS 1969 (Part 1)	Visual

Table 3 Constructional Particulars and Breaking Load Requirement for Handloom Cotton Huckaback Towels and Towelling Cloth

(Clause 5.1)



Variety No.	Count of Yarn, Universal Count (Cotton Count)		Ends/dm	Picks/dm	Mass g/m ²	Breaking Load (see 5.1.1)		Weave
	Warp	Weft				Warp	Weft	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	42 tex × 2 (14 ^s /2)	98 tex (6 ^s)	180	120	290	600	286	 Huckaback 
2	42 tex (14 ^s)	98 tex (6 ^s)	180 (double)	120	290	600	286	
3	42 tex (14 ^s)	49 tex (12 ^s)	180 (double)	120 (double)	290	600	286	
Market variety	48 tex to 85 tex (7 ^s to 15 ^s)	40 tex to 120 tex (5 ^s to 15 ^s)	160 to 220	110 to 210	175 to 300	375	300	
Tolerance, percent	±5	±5	±5	±5	±5	5 on average and –15 on individual reading		—
Method of test	IS 3442	IS 3442	IS 1963	IS 1963	IS 1964 or Annex C	IS 1969 (Part 1)	IS 1969 (Part 1)	Visual

Table 4 Other Requirements for Handloom Cotton Turkish Towels, Honeycomb Towels and Huckaback Towels

(Clause 5.2)

Sl No.	Characteristic	Requirement	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Identification of material (see Note)	100 percent cotton	IS 667
ii)	Dimensional change, percent, <i>Max</i>	4	IS 2977
iii)	Scouring loss, percent, <i>Max</i>		IS 1383 (mild method)
	a) Loomstate	6	
	b) Finished	2.5	
iv)	Colour fastness:		IS/ISO 105-B01 or IS/ISO 105-B02
	a) Light (Change in colour)	5 or better	
	b) Washing: test D (4)		IS/ISO 105-C10
	1) Change in colour	4 or better	
	2) Staining on fabric	4 or better	
	c) Bleaching	4 or better	IS/ISO 105-N01
	d) Rubbing (Dry and wet)	4 or better	IS/ISO 105-X12
v)	Wettability, s, <i>Max</i>	10	IS 2349

NOTE — Impurities of less than 0.2 percent shall be permitted.

6.1.1 The number of permissible flaws per piece shall be as agreed to between the buyer and the seller.

6.2 For details of the flaws mentioned in **6.1**, a reference may be made to IS 14466.

7 MARKING

7.1 The towels shall be suitably marked with the following information:

- Name of the material and variety no.;
- Manufacturer's name, initials or trade-mark;
- Length (cm) and width (cm);
- Month and year of manufacture; and
- Any other information as required by the buyer or the law in force.

7.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

8 PACKING

Unless otherwise agreed upon by the buyer and the seller, the towels shall be packed in bales or cases in conformity with the procedure laid down in IS 1347 or IS 293.

9 SAMPLING

9.1 Lot

The quantity of the towels of the same variety delivered to one buyer against one despatch note shall constitute a lot.

9.2 The conformity of the lot to the various requirements specified in the standard shall be determined on the basis of tests carried out on the samples selected from the lot.

9.3 Unless otherwise agreed, the number of pieces selected at random for inspection shall be in accordance with Table 5.

9.3.1 For selection of samples at random from the lot, procedure given in IS 4905 may be followed.

9.4 Number of Samples and Criteria for Conformity

It shall be as follows:

<i>Characteristic</i>	<i>Number of Samples</i>	<i>Criteria of Conformity</i>
Count of yarn, ends, picks, length, width, weave and visual inspection	According to column 2 of Table 5	Number of non-conforming pieces shall not exceed the corresponding number given in column 3 of Table 5
All other requirements	According to column 4 of Table 5	All the test pieces shall meet the requirement

Table 5 Sample Size and Permissible Number of Non-conforming Pieces
(Clauses 9.3 and 9.4)

Lot Size	Sample Size	Permissible Number of Non-Conforming Towels	Sub- Sample Size
(1)	(2)	(3)	(4)
Up to 90	5	0	3
91 to 150	8	0	3
151 to 500	13	1	5
501 to 1 200	20	1	5
1 201 to 10 000	32	2	8
10 001 to 35 000	50	3	8
35 001 to 5 00 000	80	5	13
5 00 001 and above	125	7	13

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
171 : 1993	Textiles — Ring spun grey cotton yarn for weaving specification (<i>fourth revision</i>)	2349 : 1963	Methods for determination of wettability of cotton fabrics
293 : 1980	Code for seaworthy packaging of cotton yarn and cloth (<i>third revision</i>)	2977 : 1989	Methods for determination of dimensional changes of woven fabrics (other than wool) on soaking in water (<i>first revision</i>)
667 : 1981	Methods for identification of textile fibres (<i>first revision</i>)	3442 : 1980	Method for determination of crimp and count of yarn removed from fabrics (<i>first revision</i>)
1347 : 1972	Specification for inland packaging of cotton cloth and yarn (<i>first revision</i>)	4905 : 2015	Random sampling and randomization procedures (<i>first revision</i>)
1383 : 1977	Methods for determination of scouring loss in grey and finished cotton textile materials (<i>first revision</i>)	14466 : 1997	Fabrics — Description of defects — Vocabulary
1720 : 1978	Specification for cotton sewing threads (<i>first revision</i>)	105-B01 : 2014	Textiles — Tests for colour fastness: Part B01 Colour fastness to light: Daylight
1954 : 1990	Determination of length and width of woven fabrics — Methods (<i>second revision</i>)	105-B02 : 2014	Textiles — Tests for colour fastness: Part B02 Colour fastness to artificial light: Xenon arc fading lamp test
1963 : 2004	Methods for determination of threads per unit length in woven fabrics (<i>second revision</i>)	105-C10 : 2006	Textiles — Tests for colour fastness: Part C10 Colour fastness to washing with soap or soap and soda
1964 : 2001	Methods for determination of weight per square metre and weight per linear metre of fabrics (<i>first revision</i>)	105-N01 : 1993	Textiles — Tests for colour fastness : Part N01 Colour fastness to bleaching: Hypochlorite
1969 (Part 1) : 2018	Textiles — Tensile properties of fabrics: Part 1 Determination of maximum force and elongation at maximum force using the strip method (<i>fourth revision</i>)	105 X-12 : 2001	Textiles — Tests for colour fastness: Part X12 Colour fastness to rubbing

ANNEX B

(Clause 6.1)

LIST OF MAJOR FLAWS

One or more ends missing in the body of the material throughout its length, more than three ends missing at a place and running over 60 cm, or prominently noticeable double end running throughout the piece.	Prominently noticeable slub.
Undressed snarls noticeable over a length exceeding 5 percent of the length of the piece.	Conspicuous broken pattern.
Smash definitely rupturing the texture of the fabric.	Gout due to foreign matter, usually lint or waste woven into the fabric.
Hole, cut or tear.	Prominent selvedge defect.
Reed marks prominently noticeable over a length exceeding 5 percent of the piece.	Significant shading or listing in fabric having a gradual change in tone or depth of shade of fabric (excluding selvedge or border running parallel to the selvedge).
Defective or damaged selvedge noticeable over a length exceeding 5 percent of the length of the piece.	Coloured flecks.
Weft crack or two or more bar due to the difference in raw material, count, twist, lustre, colour, shade or spacing of adjacent groups of yams (starting mark).	Blurred or dark patch.
More than two adjacent ends running parallel, broken or missing and extending beyond 10 cm.	Patchy, streaky or uneven dyeing.
Noticeable warp or weft float in the body of the fabric.	Dye bar.
Noticeable oil or other stain in the fabric.	Fuzzy appearance.
Oily weft in the fabric.	Prominent pileless spot and uneven or loose pile in case of turkish towels.
	Absence of heading (where heading is required) or defective heading.
	Defective hemming.
	Another flaw which would mar the appearance or affect the serviceability and/or durability of the towels.

ANNEX C

(Table 1, 2 and 3)

METHOD FOR DETERMINATION OF MASS OF FABRIC

C-1 Cut four specimens of 100 mm × 100 mm from a sample. Condition all the specimens in the desiccator charged with saturated solution of sodium nitrate at 27° ± 2 °C for a period of 24 h. Remove all the specimens	from the desicator and immediately determine their collective mass in weighing balance to the nearest milligram.
C-2 Calculate mass of fabric in g/m ² .	

ANNEX D*(Foreword)***COMMITTEE COMPOSITION**

Handloom and Khadi Sectional Committee, TXD 08

<i>Organization</i>	<i>Representative(s)</i>
Weavers Service Centre, Delhi	SHRI VISHESH NAUTIYAL (Chairman) SHRI VIKAS KUMAR (<i>Alternate</i>)
All India Handloom Fabrics Marketing Cooperative Society Ltd, Delhi	SHRI R. UTHAMANI SHRI SHRIKANT (<i>Alternate</i>)
Association of Corporations of Apex Societies of Handlooms, Delhi	SHRI ABDUL REHMAN SHRI ANIL KUMAR SINGH (<i>Alternate</i>)
Baster Adimjati Sewak Sangh, Baster	SHRI SUMIT DAS SHRI AMIT DAS (<i>Alternate</i>)
Commissioner Handloom & Textiles, Himachal Pradesh	REPRESENTATIVE OF COMMISSIONER & DIRECTOR OF INDUSTRIES
CRPF, New Delhi	SHRI RANDHIR KUMAR JHA SHRI D. N. LAL (<i>Alternate</i>)
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Metpalli Khadi Gramodyog Pratisthan, Telangana	SHRI G. MADHAV
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Northern India Textile Research Association, Ghaziabad	DR M. S. PARMAR

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This Indian Standard has been developed from Doc No.: TXD 08 (15651).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Published by BIS, New Delhi